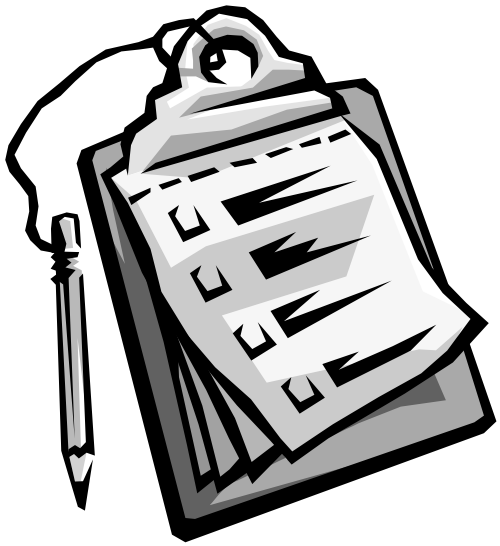
Fairfax County

Manual for Surveying

for

Customer Satisfaction



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Department of Management and Budget
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PREFACE

Local governments have a number of tools available to them to become high-performance organizations. Over the past eight years, Fairfax County has enhanced its performance measurement system as one such tool to track the level of service provided in order to continuously improve. Other tools include strategic planning, data collection, benchmarking and surveying. Generally these tools are interrelated and are used in combination to be most effective.

Fairfax County's performance measurement (PM) methodology is based upon quantified objectives linked to a full *Family of Measures* which consists of *output, efficiency, service quality, and outcome*. Service quality represents the timeliness, accuracy or customer satisfaction with a specific service.

It is up to agencies to identify which aspect of service quality is most appropriate for their particular services. For example, in public safety, response time is the most critical characteristic to measure for service quality as it directly affects residents' well-being and safety. The quicker Police or Fire and Rescue units respond to an emergency call, the greater the likelihood of saving lives and property. In data-intensive activities such as payroll and financial reporting, accuracy is key. Not many employees would want their paychecks provided by a unit that places low priority on accuracy, nor would auditors approve of haphazard financial records. However, for many other services -- both internal and external -- customer satisfaction is an essential component of performance.

There are various means to obtain customer satisfaction data, including complaint logs. Surveying is only one method. However, since many staff are not familiar with even the most basic principles, this brief manual is a guidebook for those considering using surveys. It addresses when surveying is appropriate and identifies alternate approaches for gathering customer satisfaction data, as well as the steps to follow when undertaking a survey. It is not designed to be the complete source for all survey issues; lengthy college-level texts are available for more in-depth resources, as are various County staff professionally trained in surveying.

This manual is intended to prepare agency staff to address customer satisfaction data collection issues using a comprehensive and well-reasoned approach. As with all performance measurement materials, it will be revised and improved as our experience and feedback from users indicate. Consequently, the PM Team welcomes your comments.

KEY TERMS

BIAS: Error, or distorted and unreliable survey results. All surveys contain some bias. Bias is increased when the respondents (persons answering the survey) are not representative of the population being questioned, when questions are poorly written, or misunderstood, or when the researcher uses inappropriate techniques to analyze the data.

CENSUS: A study using all available elements (members) of a population.

DATA: The collection of observations and information resulting from the survey process.

NONRESPONSE: Unit nonresponse refers to the refusal of persons selected to be sampled to participate in a survey, i.e., person does not return a mail questionnaire. Item nonresponse refers to selected questions left unanswered by the person surveyed.

POPULATION: The universe or collection of all elements (persons, businesses, etc.) being described or measured by a sample.

PRETEST: An initial evaluation of the survey design by using a small subsample of the intended population for preliminary information.

PROXY MEASURE: Surrogate or substitute indicator used when cost, complexity or timeliness prevent a result from being measured directly.

QUESTIONNAIRE: A measuring device used to query a population/sample in order to obtain information for analysis.

RESPONDENT: An element or member of the population selected to be sampled.

SERVICE QUALITY: Degree to which customers are satisfied with a program, or how accurately or timely a service is provided; e.g., percent of respondents satisfied, error rate per data entry operator, or average days to address a facility work order.

SAMPLE: Any portion of the population, less than the total.

SAMPLING FRAME: An exhaustive list of all members of the population from which a sample can be drawn.

STATISTICS: Descriptive measures based upon a probability sample.

SURVEY: A process of inquiry for the purpose of data collection and analysis using observation, polls, questionnaires, and/or interviews.

Why Survey?

Surveying is a means of gathering information about a particular population through two options: either questioning each member of the population or by sampling some of its members usually through a system of standardized questions, conducted by mail, telephone, or personal interview. They can be administered either to individuals or groups. The primary purpose of a survey is to elicit information which, after evaluation, results in a profile or statistical characterization of a population sample.

Contacting, questioning, and obtaining information from a large population, such as 390,000 households in Fairfax County, is extremely expensive, difficult and time-consuming. Fairfax County's Household Survey is an example of a survey that provides important demographic data about all households in Fairfax County. The survey questionnaire is sent to various households that are selected using strict random probability procedures so that information obtained from these households can be extrapolated to provide a demographic profile of all households in the County.

Be Clear on Your Objectives – What You Want to Achieve

Before you initiate a survey, a clear, concise statement of the problem to be studied and/or the information desired should be put into writing. It is helpful to list possible causes of the problem (i.e., lack of available childcare, low-cost housing or transportation alternatives) as well as possible solutions. This will help clarify survey objectives. Do not write any questions until the objectives are completely defined. This phase is not complete until the information desired can be stated specifically and in detail, the analysis done and the contribution of each item of information is clear. Otherwise, it will be difficult to make sound decisions regarding selection of a sample questionnaire, construction and methods for analysis. The population to be surveyed also needs to be clarified.

Survey objectives will be concerned with the following issues:

1. What information is needed in order to understand the problem, its causes and suggest possible solutions defined in the problem statement? Can the necessary information be obtained through means other than a survey?

2. How will the information be used and by whom?

3. What/who is the population to be studied?

4. What kinds of analyses would be useful to understand survey results? Will the resulting statistics be appropriate for the type of sampling methodology as well as the questions to be answered? For example, will data be broken down by geographic or service area? Are there previous survey results that can be referenced as part of a trend analysis?

What Resources are Required?

Since surveys can be costly, it is critical to discern whether or not the study needs to be done by asking:

1. ***Have studies of this subject been done previously?*** If studies have been done in the past, it may be more efficient to use the same format, including the questionnaire, so that the information is updated rather than re-created.

2. ***Is this the best measure of service quality, or would a timeliness or accuracy measure make more sense?*** When determining the scope of the survey, the objective and the rest of the Family of Measures should be considered. Surveys should not be chosen just because you think it will be easier to get data. That probably won't be the case.

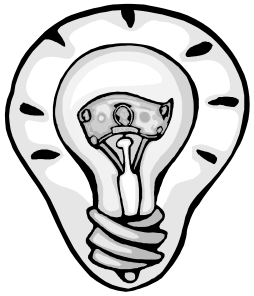
3. ***Have other County agencies investigated this area, and will you be surveying the same population?*** Often, different agencies will have the same customers, but we don't want to inundate citizens (or even internal employees) with surveys. In addition, if it is absolutely necessary that a survey be mailed to the general public, it should be carefully screened and checked by the Demographics Team in the Department of Systems Management for Human Services.

4. ***Is there a better way to get the information?*** Sometimes reliable data can be obtained by proxy measures when direct information is not readily available. Proxy measures represent reasonable substitutes and may be used when cost, complexity or timeliness prevent a result from being directly measured. For example, transportation planners need reliable data on commuting patterns to be able to effectively plan transportation improvements. Specifically, planners looking at Reston may need to know where commuters are coming from to determine if there is a need to increase lanes in a north-south highway such as the Fairfax County Parkway, or an east-west highway such as the Toll Road and Route 66. This data could be obtained by randomly surveying the population, which is very time-intensive and expensive. Instead, it is common practice to deploy people to parking lots in a particular area to write down license plate numbers and then look up the registered addresses of these cars to determine their commute origin.

Planning and Budgeting a Survey

If you have determined that a survey is in fact needed, there are several tasks that must be done. These tasks include:

1. Planning
2. Choosing a sample methodology
3. Performing the sample
4. Preparing the questionnaire
5. Pretesting the questionnaire
6. Hiring and training the interviewer (if necessary)



7. Collecting the data
8. Tabulating the data
9. Analyzing the data
10. Preparing the report

The time needed for a survey varies with the type of survey and the particular situation, though expect it to take longer than you might have originally thought. This may sometimes lead staff to take shortcuts that can invalidate the results and badly mislead the user. Four types of shortcuts that most often appear are:

1. Failure to use a proper sampling procedure
2. Not pretesting the field procedures
3. Failing to follow up on nonrespondents
4. Inadequate quality control

Specific information on how to properly perform these aspects of the survey will be addressed in the following sections. To be useful for the purposes of performance measurement, a statistic need not be exact, but it does need to be sufficiently reliable; therefore, it is important to understand the limitations of the data and to reduce the corruption of the data as much as possible.

Before embarking on a survey, numerous resources may be required depending on the nature of your survey. The factors to consider are as follows:

1. Staff time for planning the study and guiding it through the various stages

2. Labor and material costs for pretesting the questionnaire and administering it

3. Labor and material costs for editing, coding and tabulating the data from the questionnaire

4. Labor and material costs for the analysis of the data and report preparation

5. Telephone charges, postage, reproduction and/or printing costs

As a rule, surveys done by personal interview are more expensive (because they require more intensive labor and sometimes travel costs) than telephone or mail surveys. It is also important to remember that costs will increase with the complexity of the questionnaire and the amount of analysis to be carried out.

Writing the Questions

The questions should not be written until the type of question has been considered. Consideration should be given to the effort that will be needed to code the responses. For example, closed-ended questions are easier to tabulate than open-ended or essay questions. Also, closed-ended questions provide data in immediately usable form.

Answers to closed-ended questions take less effort on the part of the surveyor to tabulate. In practice, it may be worthwhile to construct a test questionnaire entirely in open-ended form, obtain responses from a few subjects, and then use the range of responses to construct a closed-ended form questionnaire for field use.

Forms of Questions

1. *Open-ended:* These questions allow the respondent to answer a query in his/her own words. Since the data are difficult to categorize, open-ended questions are more suitable to small surveys.

2. *Dichotomous (yes or no):* These permit only answers of "yes," "no," or "no opinion" as acceptable responses. This type of question stimulates a response and does not call for a more precise rating. This form is simple for the respondent. Its danger is that a slight misunderstanding may result in a complete reversal of the true opinion.

3. *Ranking questions:* This type of question offers options and asks the respondent to rank from most important to least important, i.e., "How important are these services?" The respondent may be given five options and asked for a ranking. The standard is to rank from 1 for the most important to 5 for the least important.

4. *Demographic questions:* These are simply descriptors to establish the category of the individual responding and the organization represented. Examples include gender, age or address. However, don't ask these questions unless they are germane to the data you are trying to collect -- think about what information you really need and limit your questions to that.

5. *Checklist questions*: This question simply lists several options and asks the respondent to check those that apply. For instance, "What services would you like to see us offer? Check those that apply." One way of dealing with respondents not familiar with a particular topic query is to include "no opinion" as one of the response alternatives. The disadvantage of this is that people with little or no information may still express an opinion to conceal their lack of knowledge on the subject.

6. *Multiple Choice:* The philosophy of this question design is that opinions are held along a graduated scale. These scales, for the purpose of a questionnaire, are usually of 3, 4 or 5 ranks, considered a Likert scale. This form of question is particularly useful if the issue is not clear-cut and the question cannot be answered with a simple yes or no. The range of possible answers must be complete enough to cover the entire range of opinions, and as far as possible, the answers should be mutually exclusive. The analyst must be aware of a common tendency to choose the middle rather than extremes. When using a Likert scale in a questionnaire, great care must be used in the choice of wording. Seemingly innocuous words can be emotion-laden or misinterpreted.

The five-point scale is the usual upper limit of precision for these scales. Seven to ten points can be used, but it is generally believed that no additional insight is gained for the added complexity. The response options should include the "no opinion" or "don't know" choices. These options do not count as one of the points. The choice of wording in a Likert scale is critical. The designer must be careful in the choice of response options. See Figure 1 on page 17 for some examples of three, four and five-point scales that have generally proven successful.

Rules for Constructing a Survey/Questionnaire

1. Clarity is essential. The words used must mean the same thing to everyone. For example, words such as "several," "most" and "usually" mean different things to different people. Depending upon the context, they may mean different things to the same person.

2. Short items are preferable since they are easier to understand.

3. Avoid negative items. They have a tendency to be misread by respondents who miss the negative word. Therefore, the response is often the opposite of the true perception.

4. Double-barreled items should be avoided since they require the subject to respond to two questions or ideas with a single answer. The subject may agree with one part and disagree with the other. For example, "Although recycling is a valuable program, pick-ups should only occur once a week." This requires judgment on two separate concepts. The subject must make a value judgment on the recycling program prior to considering how often the pick-ups should occur.

5. Technical terms, jargon, acronyms and big words have no place in most surveys if the question can be stated in commonly used language. Some respondents may not understand the terminology. Clarity is important, particularly if you mail the questionnaire. No one will be available to explain the meaning of the words.

6. If using both general and specific questions, ask the general questions before specific questions. If the specific is asked first, it will narrow the focus prematurely.

7. Avoid biased/misleading questions. If the subject gets an idea of what is wanted, that is what will be provided. This is especially true if the respondent is anxious to please whoever signed the letter of transmittal.

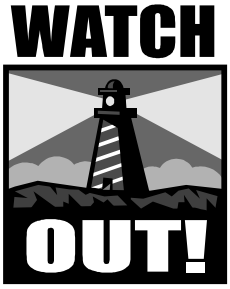
8. When using multiple choice or dichotomous questions, the "other" or "no opinion" options should be included. The respondent may then be asked to explain the answer.

9. Whenever possible, questions that might be threatening or the answer to which might put the respondent in a bad light should be avoided. For example, "Are you still not paying taxes?" is not an appropriate question. It implies that the respondent has previously shirked this responsibility. In many cases, the respondent will ignore the whole questionnaire rather than look bad. In others, the response cannot be trusted. If these questions cannot be avoided, confidentiality must be guaranteed.

10. Questions should be formulated to yield exactly the information that is sought. For example, "How long ago?" is not as good as "How many months ago?"

11. Ambiguous questions should be avoided. Avoid phrases or words that mean different things to different people. Do not use excessively complex phrases. Questions that are too general, words with double meanings, and conditional or limiting phrases should be avoided.

12. Danger words, (such as abortion and gun control), emotive words (such as freedom, equality, bureaucracy, welfare), and suggestive words (such as reasonable, moderate, etc.) should be avoided.



13. Multiple choice answers should be reasonable. When seeking opinions across a range, have the same number of responses on either side of the mean. The intensity of the responses should be symmetrical. (See previous discussion about Likert scales.)

14. The arrangement of alternative responses is important. Research has shown a tendency to pick the first of two alternatives.

15. Writing should be kept to a minimum. This applies to question length as well as the response. The questionnaire should be as short as possible consistent with obtaining the required data.

16. A fifth grade reading level should be used when constructing questions.

17. Questions appearing to be unreasonable should have an explanation for why they are being asked.

Arranging the Questionnaire

Many questionnaires appear to have been constructed with no thought as to the impression they will make upon the respondent, or for that matter, with no concern for data tabulation. Questions are sometimes asked that have no obvious connection to the stated purpose of the survey. For example, the question "Are you a male or female" is often added just because it is commonly used on surveys, but is not going to be used to stratify the data.

A poorly designed form that appears to be asking for unrelated or disorganized data can cause respondents to have a negative attitude toward the form and may have an adverse impact on cooperation and/or seriousness of response. It may be the only direct contact the respondent has with the organization, so a favorable impression is important.

The following guidelines will help you in designing your questionnaire:

1. Make the questionnaire attractive by formatting it attractively and not crowding the text.

2. Organize the layout and the form so it is easy to complete.

3. Number the items and pages.

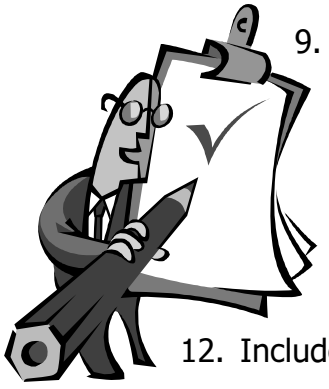
4. Put the name and address of the person to whom it should be returned on the survey.

5. Give brief, clear instructions in bold type on the front page.

6. Define the survey objective(s).

7. Use examples where the form is not clear or the question is hard to understand.

8. Organize the form in a logical sequence by grouping items with the same response options.



9. Avoid putting important items at the end.

10. Make questions (and the questionnaire) as short as possible. Each additional page will lower the percentage responding.

11. Consider whether facts or beliefs are sought. Two people can agree on facts, but may differ on beliefs concerning these facts.

12. Include only those questions that have a direct bearing on the survey.

13. Do not include questions if the answer can be obtained elsewhere more accurately or more easily.

14. Use caution when asking potentially threatening questions.

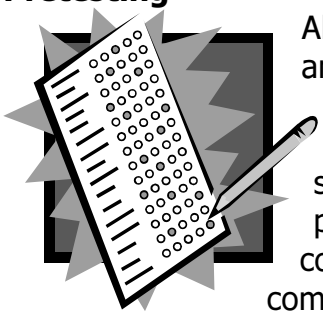
15. Avoid questions that are likely to yield inaccurate information. People frequently do wishful thinking and may provide unrealistic responses if questions are not well-defined.

16. Use clearly worded specific questions that can be answered briefly.

17. Keep in mind what analysis will be done. The presentation of responses will affect the ease of tabulating results.

18. Separate answer keys should not be used since they can lead to unintended responses (respondents might mark the wrong choice or wrong number because of switching back and forth). Separate answer keys can also have an unpleasant association with testing in an academic environment.

Pretesting



All surveys should be pretested, a process which can detect ambiguities, negative wording and threatening questions. What may be obvious to the designer may be vague to the respondent. The population surveyed in the pretest phase should be similar to the target population if possible. During the pretest phase, space should be provided for respondents to comment on the questions. Respondents should be able to comment on ambiguity, whether other questions should be asked and any other data that might improve the questionnaire. The number of people who are required for pretesting depends on how large the target population is. **However, it is recommended that at least 5 people pretest a small survey and up to 30 people pretest for large surveys.**

At this point, it is appropriate to perform an analysis of the preliminary responses. This will allow a chance to determine if the questions are well designed and if the administrative and explanatory material work well. For example, if sharp differences are found in the responses to a specific question, it may be desirable to construct additional or modified questions to help understand the reasons.

Transmitting the Survey The transmittal letter should be brief, but must convey certain information and impressions if a good response is desired. Whenever possible, the purpose of the survey should be explained briefly and in such a way that the respondent feels it is important. Stressing the importance of the respondent's opinion in improving the product or service provided can do this. The transmittal letter should include a due date. In addition, it is important to explain how the information collected will be used and that confidentiality of personal data will be maintained.

The neatness and composition of the transmittal letter will significantly affect the response rate. A poorly composed letter or questionnaire will indicate that little importance is attached to the survey. Consequently, the respondent will respond in kind. The transmittal letter should be written in the first person, and should include assurance to respondents that their input is appreciated.

Sampling Methodology

There are two general sampling methodologies: probability and nonprobability sampling. A probability sample tends to be more difficult and costly to conduct; however, probability samples are the only type of samples where the results can be generalized from the sample to the population. Nonprobability sampling, while less complicated and less time-consuming to administer, does not allow the generalization of the results beyond the sample. The following describes types of each.

Nonprobability Samples

1. *Convenience Sampling*: Involves choosing respondents at the convenience of the researcher. Examples include "people in the street interviews," or studies that use people who have volunteered to be questioned. A drawback to this methodology is the lack of sampling accuracy.

2. *Quota Sampling*: Somewhat like stratified and cluster sampling, but the subdivisions of the population sampled (i.e., classes) are not isolated prior to sampling and respondents are categorized into the classes as the survey proceeds. As each class fills or reaches its quota, additional respondents that would have fallen into these classes are rejected or excluded from the results. An example might be a survey in which the researcher desires to obtain a certain number of respondents from various income categories. Generally, researchers do not know the incomes of the persons they are sampling until they ask.

3. *Judgmental Sampling*: A researcher employs his or her own "expert" judgment about whom to include in the sample frame. Prior knowledge and research skills are used in selecting the respondents or elements to be sampled. An example of this type of sample would be a survey of potential users of a new recreational facility that is limited to those persons who live within two miles of the new facility, a determination made based on past experience which indicates that most of the use will come from this group.

Probability Samples

1. *Simple Random Sampling:* A comprehensive list of all members of the population of interest must be developed. From this list, the **sample is drawn so that each person or item has an equal chance of being drawn during each selection round**. To draw a simple random sample without introducing researcher bias, computerized sampling programs and random number tables are used to impartially select the members of the population to be sampled. For example, a survey of all County employees could be done by obtaining a list of employees from the Department of Human Resources, and selecting 100 names using a random number table.

2. *Stratified Random Sampling:* Involves categorizing the members of the population into mutually exclusive and collectively exhaustive groups. An independent random sample is then drawn from each group. Going back to the previous example of

trying to determine income earned by families by geographic region, a stratified sample is different from a quota sample in that families can be divided into groups that do not overlap (you only live in ONE area) and then a random sample is performed.

3. *Cluster Sampling:* Similar to stratified sampling in that the population to be sampled is subdivided into mutually exclusive groups. However, in cluster sampling, the groups are defined so as to maintain the heterogeneity of the population. The goal is to establish clusters that are representative of the population as a whole. After the clusters are established, a simple random sample of the clusters is drawn and the members of the chosen clusters are sampled. An example is a survey to measure the age distribution of persons residing in Fairfax County. It would be difficult to compile a list of every person residing in the County, but it is not as difficult to list every residential address. In this example, each address would represent a cluster.

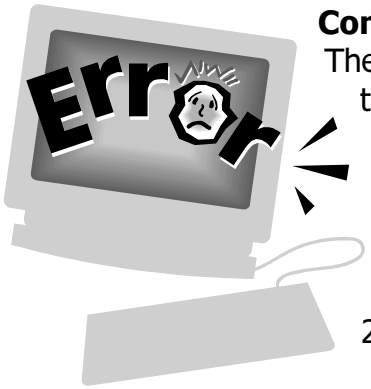
4. *Systemic Sampling:* every n^{th} member is selected after randomly selecting the 1 through n^{th} element as the starting point. For example, if the researcher decides to sample every 20^{th} member of the population, a 5 percent sample, the starting point for the sample is randomly selected from the first 20 members.

Non-Response

According to the American Statistical Association, a low response rate produces more questionable results than a small sample since there is no scientifically valid way to infer the characteristics of the population that the nonrespondents represent. So, rather than simply ignoring the nonrespondents, every attempt should be made to get them to respond to the survey.

If further correspondence or callbacks do not substantially increase the response rate, weighting adjustments can be used to compensate for potential nonresponse bias. For instance, if the nonresponse rate is lower among low-income groups, weighting up the low-income respondents to conform to a known income distribution might eliminate nonresponse bias. However, if there are differences in the survey variables between the respondents and nonrespondents in each income group, then nonresponse bias will remain or increase. Therefore, weighting adjustments should not be considered a complete solution to the problem. While this technique is very useful, it can be extremely difficult to implement and only experienced surveyors should attempt to employ this method.

It is also important to distinguish between total non-response and failure to respond to individual items in the survey. It is possible to employ a method to assign a value to the nonresponse item by analyzing partial response data for a pattern. However, this is another method that is very difficult to implement, and if used, the extent of sample loss and missing data must be included in the final report.



Common Mistakes/Pitfalls

The following are mistakes some surveyors make that decrease the effectiveness of the survey.

1. Little thought is given to what information is really being sought and what will be done once the data is gathered. Planning is overlooked in the rush to get the job done.

2. There is no good relationship between the procedures used and the objectives of the study. This may result in failure to get good data or the inability to correlate the data that is obtained.

3. No pretest is done. Pretesting is critical to work out the "bugs."

4. The survey is a fishing expedition. Questions are asked for no good reason. There should be a reason for every question.

5. Questionnaires are used when other data gathering methods would be better. Data might be gathered in less time for lower cost by simple research.

6. There is insufficient attention to developing the items and organization of the form.

7. Too many questions are asked. This makes the form too long and increases the time to complete.

Other Methods of Determining Customer Satisfaction

Besides the traditional written or telephone survey, the following list represents other methods of determining customer satisfaction that may be deemed less intrusive and provide more pertinent data.

- *Point of Service Surveys:* These surveys are given to customers at the time the service is delivered. They may be given to the entire universe at the time the service is delivered, or may be targeted to specific populations or service recipients, or at the time of day. To reduce the number of responses that may be received, the survey may use a systematic sampling method (given to every 10^{th} or every 100^{th} customer). The advantage of this type of survey is that it allows specific services to be evaluated, and to assess trends. That ensures that all customers feel appreciated; all may receive the survey, but only a sample of these is actually tabulated for trends.

- *Follow-up Surveys:* After a time lag (3 months, 6 months, etc., following the delivery of the service), a mail or telephone survey of customers of a specific service is used to determine satisfaction. The advantage of this is it allows the customer to absorb the value of the service, or to reap the benefits of the service after it is provided.

- *Customer Contact Reports:* Immediate customer feedback is given directly to the employee who served the customer. The employee or the customer may fill out qualitative or quantitative forms to collect the data. This gives immediate feedback and is preferred when the service can be assessed quickly and the contact is brief with the customer. It also has the advantage of making the contact more personal and more appreciated by the customer. However, care should be taken that the employee does not manipulate the process to cajole the customer into giving higher marks that he or she would have in the absence of the employee.

- *Customer Councils:* Feedback is given by a group considered representative of the customer of the agency or service. This type of feedback is useful when there are ongoing issues that customers may discuss among themselves, and feel that others can refine and reflect their views, and when customers may prefer to speak with other customers rather than approaching the agency directly.

- *Focus Groups:* In-person interviews are used in a small group setting with a relatively homogeneous group of individuals selected for an in-depth discussion. This is useful for testing a questionnaire for new questions, or testing a message designed to change opinion, or when addressing a new or possible controversial area or service where reliable measures have not been validated. The ideal size for a focus group is generally between six and twelve people.

- *Customer Interviews:* A selected group of customers is interviewed systematically. This is similar to a focus group, but individuals are interviewed separately using open-ended questions. It provides greater in-depth information than a survey, but lacks the opportunity to delve into sensitive areas or new issues as well as a focus group. This is useful for explorative research.

- *Electronic Mail:* This is when a public electronic network is set up to communicate directly with a department, and staff is expected to reply within a specified time period such as 24 hours. This has the advantage of permitting anonymity (if desired by the customer), and of allowing feedback on a customer's timetable, and ensuring that the views of all interested customers are heard.

- *Telephone Hotline Numbers:* A telephone number is provided to the public in order for them to provide comments, suggestions, etc. This is a frequently used technique in the private sector to collect customer feedback. While it is not a statistically valid representative of the population, it does provide a forum to receive feedback on services.

- *Web Surveys:* Using a frequently contacted Web site, a Web-based survey can gauge customer satisfaction. Screens can be used to limit access to the survey to specific targeted populations. The advantage of this method is that data can be immediately tabulated and analyzed.

References

American Statistical Association, "What is a Survey?" Subcommittee of the Section of Survey Research Methods, American Statistical Association, Washington, DC, 1980.

Cochran, William G. Sampling Techniques, John Wiley and Sons, New York, 1977.

Converse, Jean and Stanley Presser. Survey Questions: Handcrafting the Standardized Questionnaire. Sage University Publications, 1986.

Department of Systems Management for Human Services, Fairfax County. Survey Research Information Brochures: Common Pitfalls in Conducting a Survey; Survey Question Design; and Overview of Sampling Procedures, April 2003.

Dillman, Don A. Mail and Telephone Surveys, John Wiley and Sons, New York, 1978.

Fowler, Floyd J., Jr. Survey Research Methods, Sage Publications, 1993.

Groves, R.M. Survey Errors and Survey Costs. New York, John Wiley and Sons, 1989.

Hedrick, Terry E., Leonard Bickman, and Debra J. Rog. Applied Research Design, Sage Publications, 1993.

Miller, Thomas I. and Michelle Miller Kobayashi. Citizen Surveys – How to Do Them, How to Use Them, What They Mean, ICMA, 2000 (second edition)

Moser, C.A., and Graham Kalton. Survey Methods in Social Investigations, 2nd ed., London, 1971.

Payne, Stanley. The Art of Asking Questions, Princeton University Press, Princeton, 2nd ed., 1979 (original ed. 1951).

Rea, Louis M. and Richard A. Parker. Designing and Conducting Survey Research, Jossey-Bass Publishers, 1997 (second edition)

U.S. General Accounting Office, Developing and Using Questionnaires, GAO/PEMD-10.1.7. Washington, DC, September 1993.

Webb, Kenneth and Harry Hatry, Obtaining Citizen Feedback: The Application of Citizen Surveys to Local Governments, The Urban Institute, 1973.

Relevant Journals:

American Demographics
American Sociological Review
Journal of Advertising Research
Journal of Applied Psychology
Journal of Marketing
Journal of Marketing Research
Journal of Social Psychology
Journal of the American Statistical Association
Public Opinion Quarterly
Sociological Methods and Research

Websites

Department of Systems Management for Human Services Website
http://www.co.fairfax.va.us/comm/demogrph/publist.htm

American Statistical Association
www.amstat.org

American Association for Public Opinion Research
www.aapor.org

Council of American Survey Research Organizations
www.casro.org

Federal Committee on Statistical Methodology/Statistical Policy Working Papers
www.fcsm.gov

Figure 1: Example of Likert Scales

3-Point Likert Rating Scales		
Very Important	Fairly Important	Not Important
Higher	Same	Lower
Harder	About the same	Not so hard
Greater	Equal	Less
Yes	Depends	No
Above Average	Average	Below Average
Most	Many	Few
Definitely Agree	Neither Agree nor Disagree	Definitely Disagree
Very Good	Average	Poor

NOTE: If the issue is not well defined, many will choose the middle of the road.

4-Point Likert Rating Scales			
Many	Some	Very Few	None
Excellent idea	Good idea	Fair idea	Poor idea
Highest	Next to Highest	Next to Lowest	Lowest

5-Point Likert Rating Scales				
Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Among the best	Better than most	About the same as most	Not as good as most	Among the worst
Definitely recommend	Probably recommend	Might or might not recommend	Probably would not recommend	Definitely would not recommend
Definitely would	Probably would	Might or might not	Probably would not	Definitely would not
Very satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Very dissatisfied
Strongly approve	Approve	Undecided	Disapprove	Strongly disapprove
Certainly right	Probably right	Doubtful	Probably wrong	Certainly wrong
Much greater	Somewhat greater	Equal	Somewhat less	Not at all
Very high	A little above average	Average	A little below average	Very low
Practically all	Many	About half	A few	Practically none
Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much
Everyone	The majority	Quite a few	A few	None
Favor in all respects	Favor in most respects	Neutral	Favor in a few respects	Do not favor at all
Much better than expected	Somewhat better than expected	Same as expected	Somewhat worse than expected	Much worse than expected
Absolutely true	Probably or partly true	In doubt divided, open question	Probably, or partly false	Absolutely false